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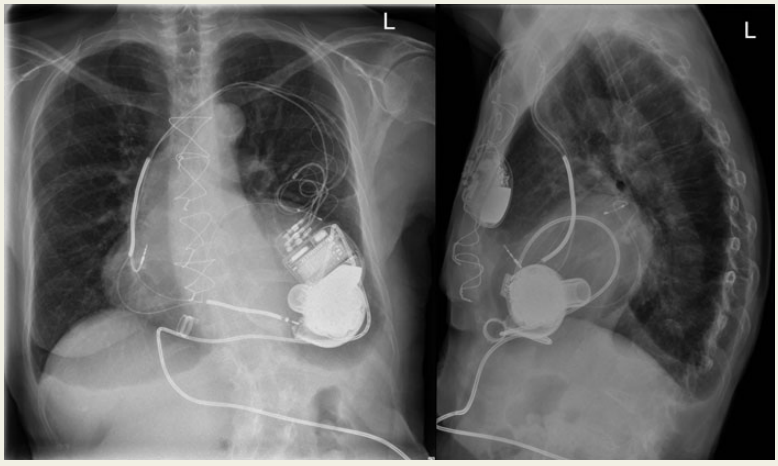

A 66-year-old female patient with severe dilated cardiomyopathy reports about alarm sounds from her cardiac resynchronization therapy-defibrillator (CRT-D) device, occurring several times over the last months. She had received a Medtronic Viva XT CRT-D device 2 months earlier; due to end-stage heart failure, a HeartWare® Ventricular Assist Device was subsequently implanted as demonstrated in the chest X-ray.

During a comprehensive assessment, we were able to induce the alarm sound by moving the Assist Device's Controller (in its bag) close to the implanted CRT-D. The same alarm (same tone, same duration) was repeated by placing a magnet in the vicinity of the CRT-D device. Analysis of the device by the manufacturer finally confirmed the CRT-D's magnet field approach alarm as the reason for the observed alarms, triggered by the magnetic field of the assist device's controller.

Interactions between a left ventricular assist device and implantable cardioverter-defibrillators (ICDs) have been described, including changes in lead impedances, sensing, and capture threshold as well as interference with ICD's telemetry. Furthermore, one inappropriate shock has been reported due to noise of the LVAD battery system.

To the best of our knowledge, this represents the first interaction between a left ventricular assist device's controller and a CRT-D device due to magnetic field interference.

The full-length version of this report can be viewed at: http://www.escardio.org/Guidelines-&-Education/E%E2%80%93learning/Clinical-cases/Electrophysiology/EP-Case-Reports.